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Lehigh River
Water Quality/Flow Model

Gregory Wacik, Ecologist
U.S. Army Corps of Engineers,
Philadelphia District
Environmental Resources Branch

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Two Phases

- Section 22 (Water Resource Development Act) Planning Assistance to the States
- PHASE I- cost shared between the Federal Government (Corps of Engineers) and Commonwealth of Pennsylvania (PADCNR)
- PHASE II- will be cost shared between the Corps and Commonwealth of Pennsylvania (PADCNR and PFBC)

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Model Phase I & II

- Phase I- An evaluation of the relationship between inlake and downstream temperatures in response to various pool heights and operational scenarios at F.E. Walter Reservoir.

- Phase II- Integrates additional water quality parameters into Phase I and allows for six additional scenario runs.

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Overall Objective

- To help evaluate reservoir operational scenarios and the potential impact on the environment and recreation at F.E. Walter Reservoir and in the Lehigh River

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Reservoir and River Considerations

- Recreation
- Water chemistry
- Aquatic and terrestrial habitats
- Ecological function

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Iron Precipitate on Lehigh River Sediments (2002) as a result of in-lake water chemistry changes

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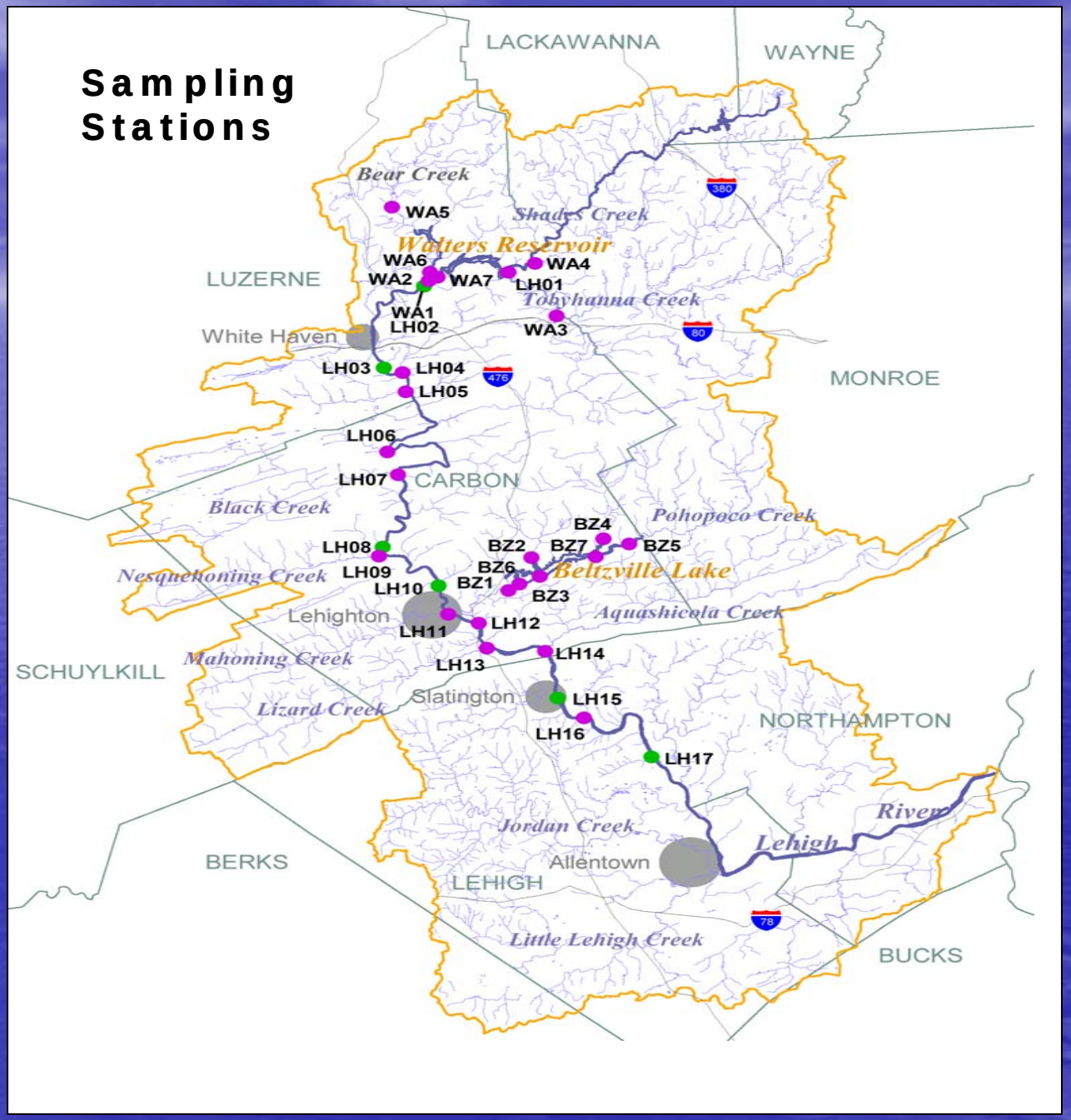
(GREEN)

RIVER STATIONS

(PINK)

TRIBUTARY and LAKE STATIONS



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Phase I Data Compilation

- Operational Records 2000-2007
- Corps WQ sampling data in-lake and River 2000-2007
- USGS flow and water quality data
- Lehigh River Stocking Association Lehigh River temperature data at Jim Thorpe

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Phase I Status

- Model has been developed and scenarios will be run against 2001 (low flow) and 2003 (high flow) years
- Contract allows for six pre-determined model scenarios
- The Corps and State have developed two scenarios currently being prepared for the model

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Phase I Status

- Eight potential scenarios have been developed for public comment (includes whitewater, fishery, and environmental flows)
- The final four scenarios under the Phase I contract will be developed and finalized considering public input

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Foundation of Model Runs

- Existing Conditions (bypass system and flood control gates
- Conceptual multi-portal tower

Portal	Elevation	Capacity
#1	1380	500 cfs
#2	1360	500 cfs
#3	1340	500 cfs
#4	1320	500 cfs
#5	1300	500 cfs

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Scenario A & B

- Assumed starting pool height 1370’ on May 10th and 1365’ on July 1st
- Fisheries augmentation release has been front loaded early in the season
- Possible 24 Whitewater release dates
- Scenario A using existing tower
- Scenario B using conceptual portals in multi-portal tower

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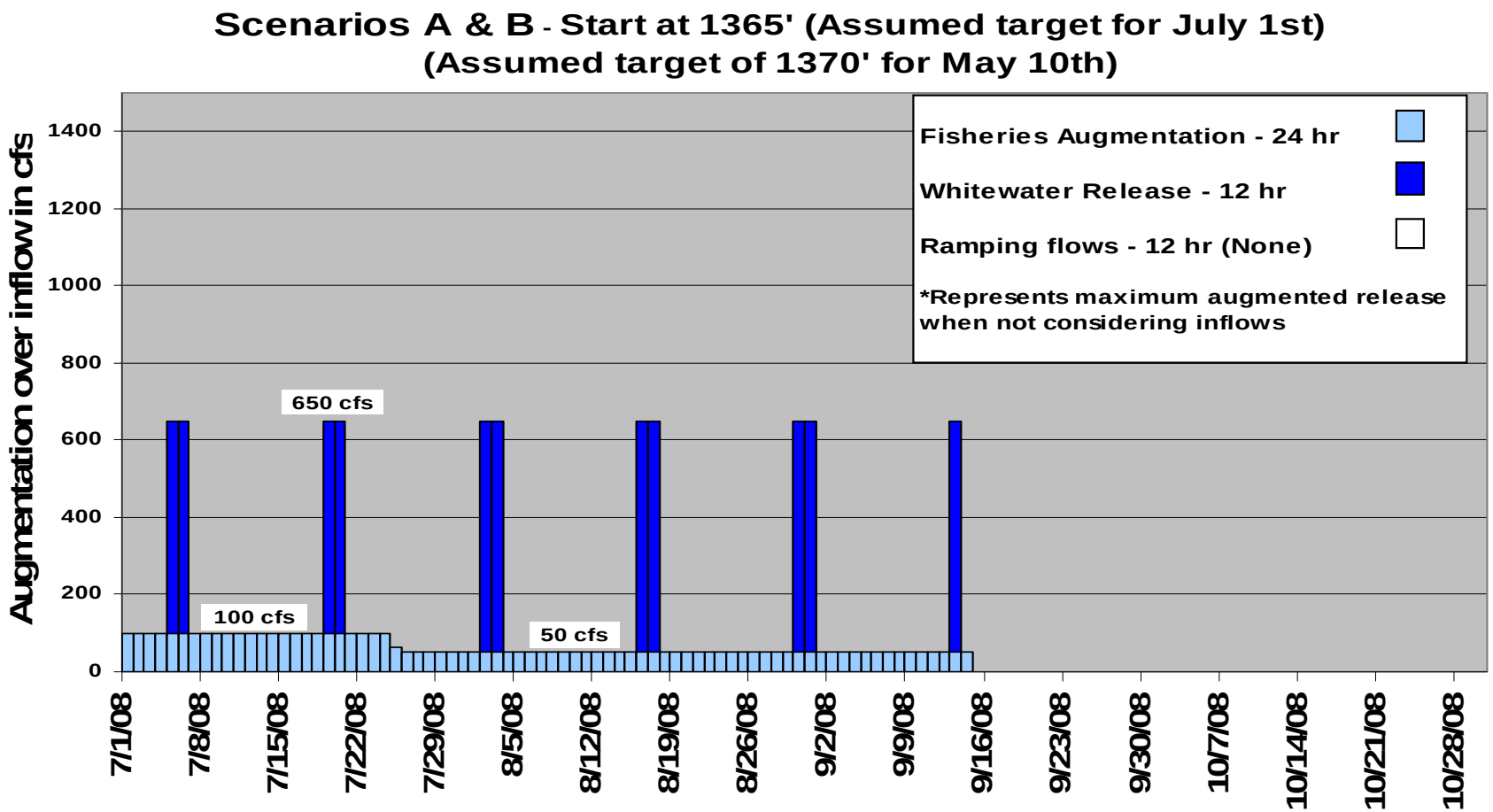
Scenario A & B



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Scenario C & D

- Assumed starting pool height 1392’ on May 10th and 1387’ on July 1st
- Fisheries augmentation release has been provided for entire season
- Possible 24 whitewater release dates
- Scenario C using existing tower
- Scenario D using conceptual portals in multi-portal tower

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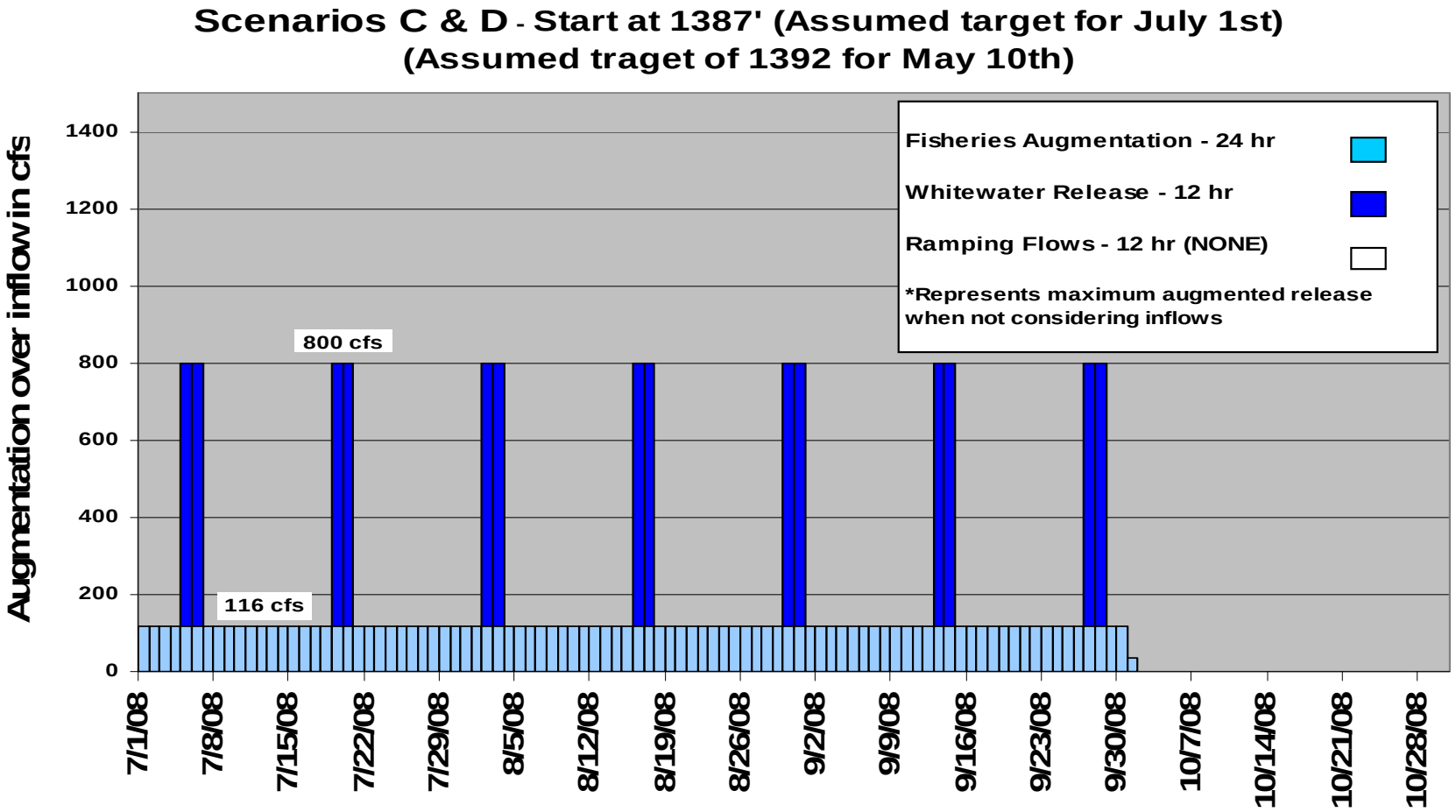
Scenario C & D



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Scenario E & F

- Assumed starting pool height 1392’ on May 10th and 1387’ on July 1st
- Fisheries augmentation release has been provided for entire season
- Possible 24 whitewater release dates
- Ramping releases provided on whitewater release weekends
- Scenario E using existing tower
- Scenario F using conceptual portals in multi-portal tower

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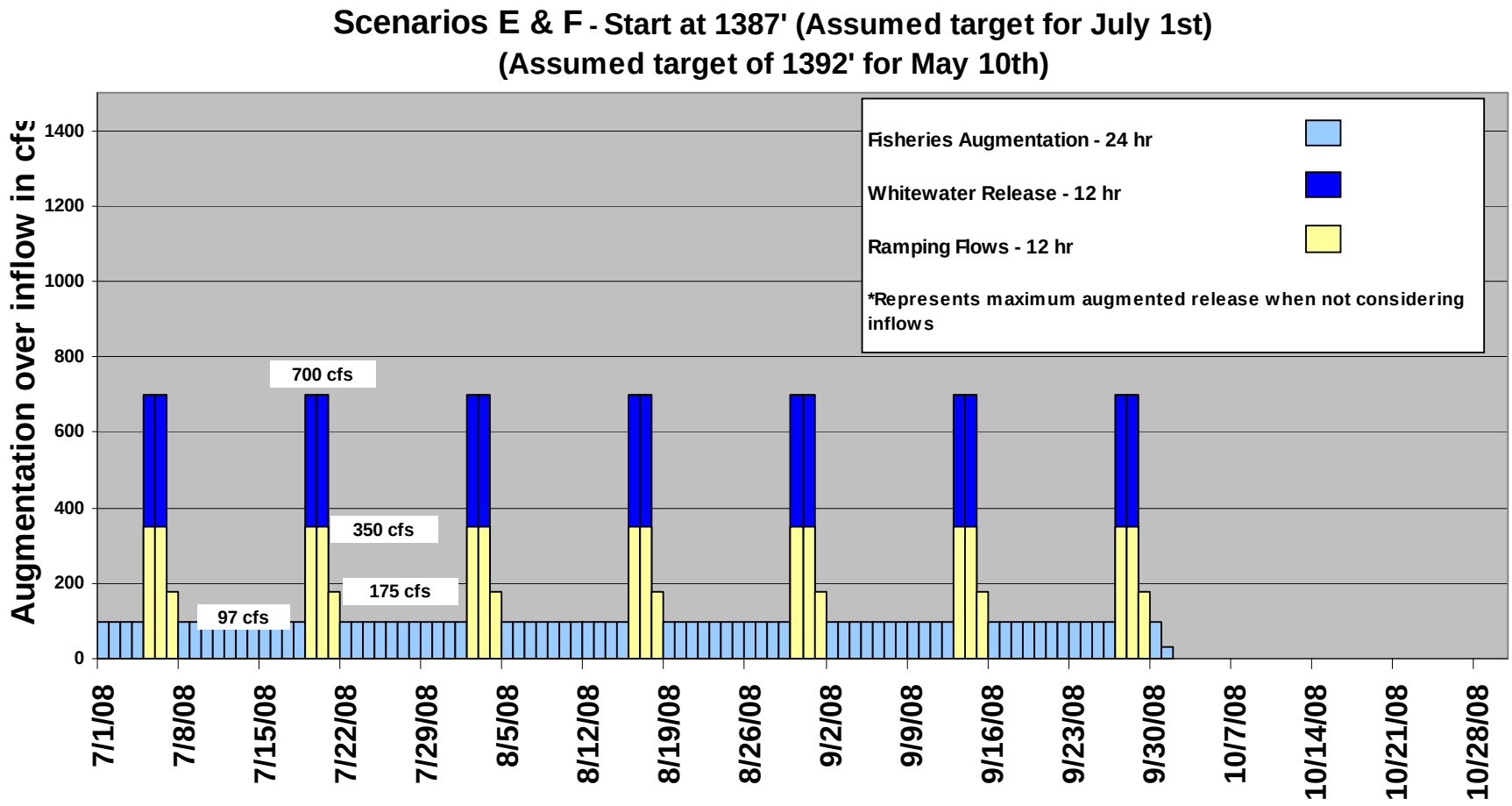
Scenario E & F



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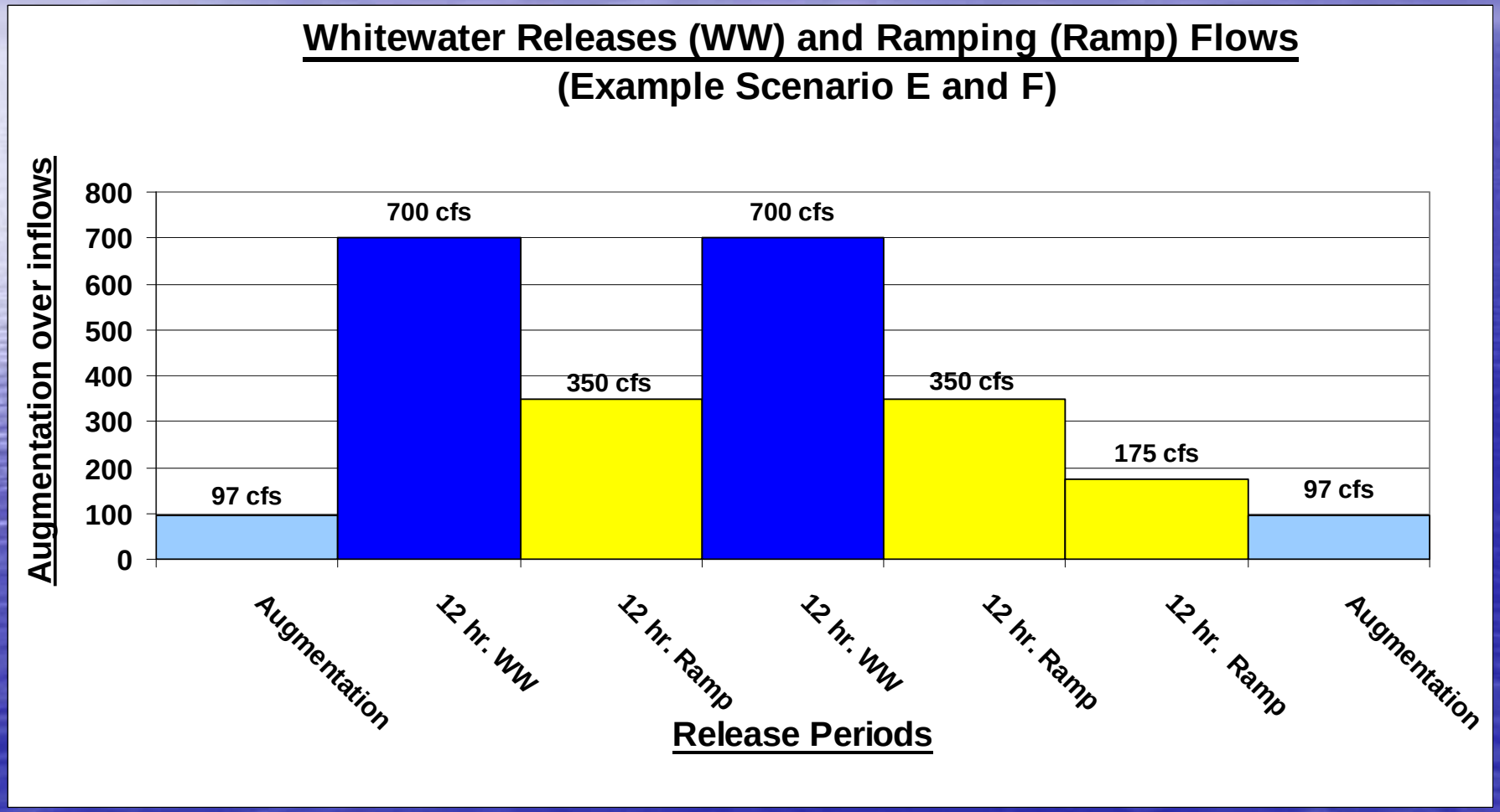
Ramping Flows



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Scenario G & H

- Assumed starting pool height 1392’ on May 10th and 1387’ on July 1st
- Fisheries augmentation release has been provided for entire season with no whitewater releases
- Scenario G using existing tower
- Scenario H using conceptual portals in multi-portal tower

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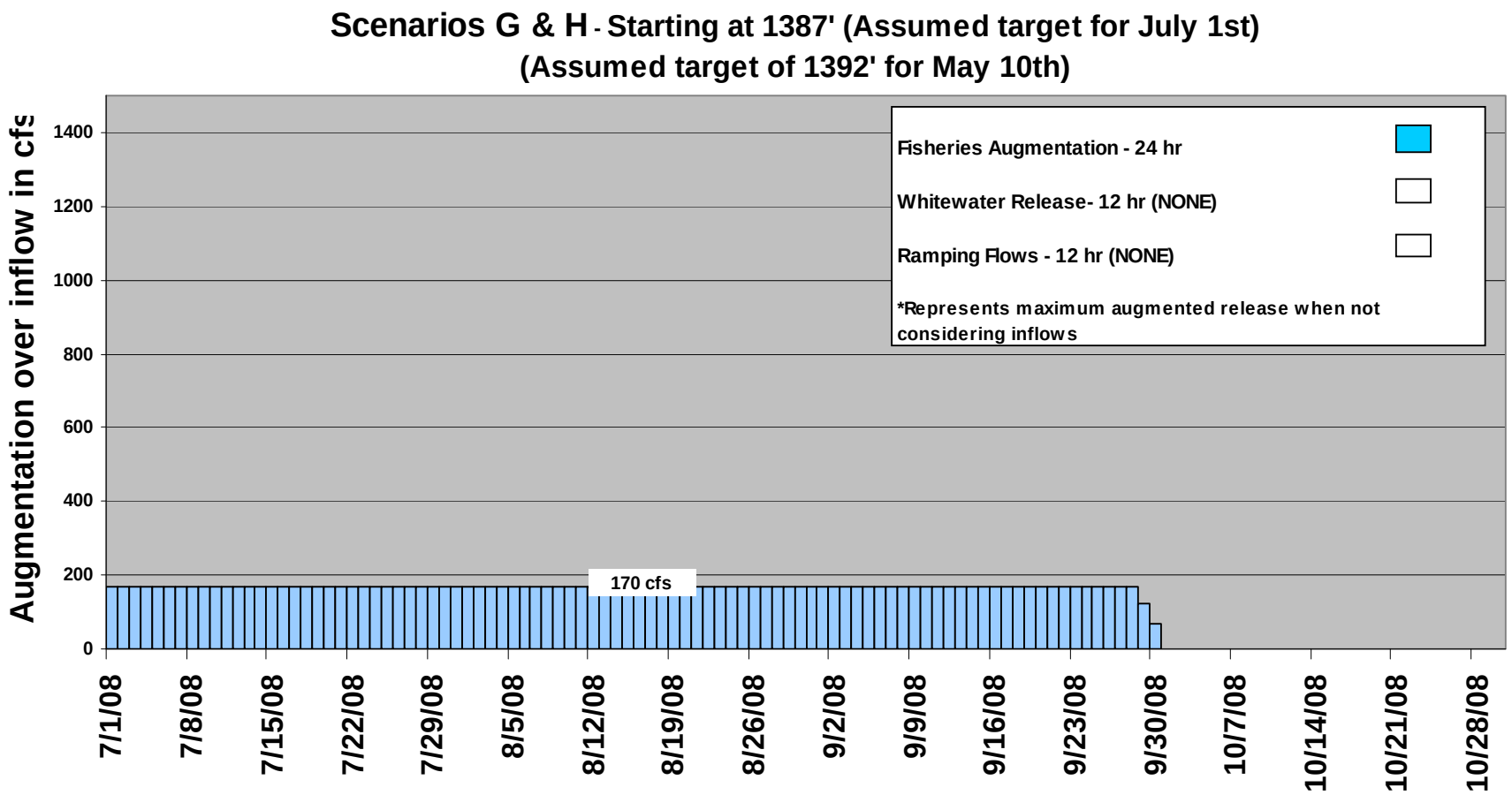
Scenario G & H



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Scenario I & J

- Assumed starting pool height 1392’ on May 10th and 1387’ on July 1st
- Whitewater releases have been provided for entire season with no fisheries releases
- Scenario I using existing tower
- Scenario J using conceptual portals in multi-portal tower

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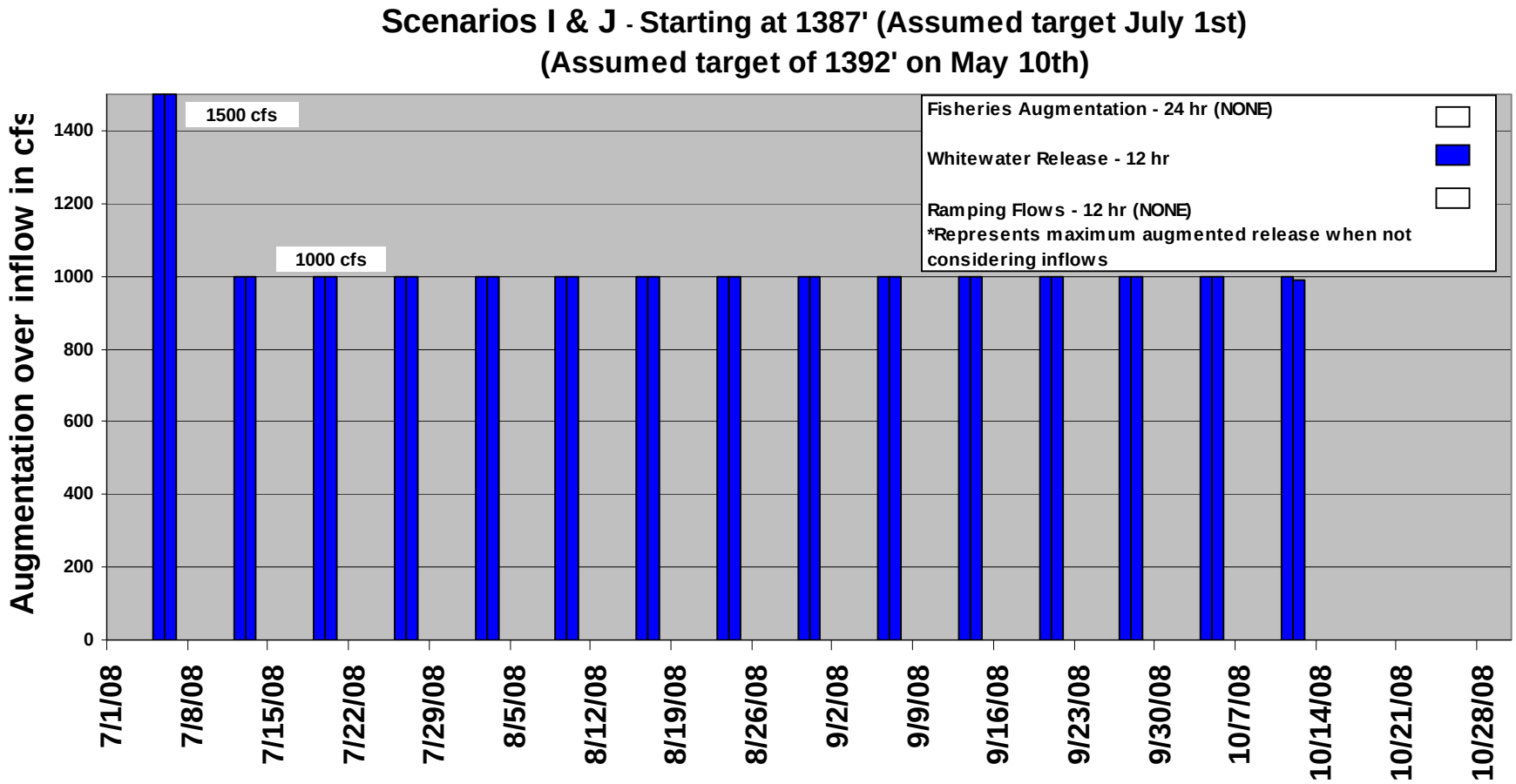
Scenario I & J



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Public Comment

- Four additional scenarios will be selected and developed under the Phase I model contract
- Comments on potential scenarios can be provided to the Philadelphia Districts F.E. Walter Project website

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QUESTIONS/COMMENTS?

Official public comments:

U.S. Army Corps of Engineers
ATTN: Public Affairs (CENAP-PA)
100 Penn Square East
Philadelphia, PA 19107-3390

F.E. Walter website:

http://www.nap.usace.army.mil/Projects/FEWalter/comments.htm